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ASSESSMENT OF THE PHILIPPINES NATIONAL HIV/AIDS SENTINEL SURVEILLANCE SYSTEM

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CONTENTS

EXECUTIVE SUMMARY	vii
ABBREVIATIONS AND ACRONYMS	xi
INTRODUCTION	1
PROGRAM DESCRIPTION	5
FINDINGS	7
CHOICE OF SURVEILLANCE POPULATION	7
INCLUSION AND EXCLUSION CRITERIA	7
MAPPING AND SAMPLING METHODOLOGIES	8
SAMPLE SIZE AND QUALITY ASSURANCE	9
PROTOCOLS FOR ANONYMITY AND CONFIDENTIALITY	9
ORGANIZATION/SUSTAINABILITY OF NATIONAL AND LGU-LEVEL HIV SURVEILLANCE EFFORTS	10
OTHER FINDINGS AND RECOMMENDATIONS FOR SENTINEL SURVEILLANCE	10
LABORATORY PROCEDURES	10
DATA MANAGEMENT AND ANALYSIS	11
AIDS REGISTRY	11
CONCLUSIONS AND RECOMMENDATIONS	13
CHOICE OF SURVEILLANCE POPULATION	13
INCLUSION AND EXCLUSION CRITERIA	13
MAPPING AND SAMPLING METHODOLOGIES	14
SAMPLE SIZE AND QUALITY ASSURANCE	15
PROTOCOLS FOR ANONYMITY AND CONFIDENTIALITY	16
ORGANIZATION/SUSTAINABILITY OF NATIONAL AND LGU-LEVEL HIV SURVEILLANCE EFFORTS	16
OTHER FINDINGS AND RECOMMENDATIONS FOR SENTINEL SURVEILLANCE	17

LABORATORY PROCEDURES.....	17
DATA ANALYSIS.....	18
AIDS REGISTRY.....	18
CONCLUSIONS.....	19
ANNEXES	
ANNEX A. STATEMENT OF WORK.....	A-1
ANNEX B. PERSONS CONTACTED/INTERVIEWED	B-1
MANILA	B-1
QUEZON CITY	B-3
CEBU CITY.....	B-4
DAVAO CITY	B-5
GENERAL SANTOS CITY	B-6
ANGELES CITY	B-6
BAGUIO CITY.....	B-7
ANNEX C. SAMPLE SIZE PROPOSED AT OCTOBER 2004 MEETING IN CEBU CITY	C-1
ANNEX D. QUESTIONNAIRE GIVEN TO SITE TEAM LEADERS.....	D-1
ANNEX E. REFERENCES.....	E-1

EXECUTIVE SUMMARY

In 1987, the Philippines Department of Health (DOH) National Epidemiology Center (NEC) launched a passive surveillance system as a means of tracking HIV seroprevalence in the Philippines. This system essentially consisted of an AIDS Registry that recorded HIV-positive cases reported from the health system. Later, through the United States Agency for International Development (USAID) AIDS Surveillance and Education Project (ASEP), implemented 1993 through 2003, with support from the World Health Organization (WHO), the DOH established active HIV/AIDS surveillance—the National HIV Sentinel Surveillance (NHSS) system. The HIV sentinel survey instrument was established in 1993 and a behavioral surveillance survey (BSS) component was added in 1997. As of August 2004, the Philippine national AIDS registry has documented 2,139 confirmed HIV cases, including 670 AIDS cases.

The Philippines is credited with being one of the first countries to pioneer a comprehensive surveillance system during a period of limited knowledge of behavioral surveillance and uncertainty about the HIV/AIDS dynamics in Asia. Periodic reviews have shown, however, that the Philippines surveillance system requires structural, technical, and operational modifications, which have been adapted on a piecemeal basis to produce timely, relevant, and accurate measures of HIV transmission and infection. Following on more than a decade of knowledge and experience gained in the Philippines and elsewhere, the DOH and USAID/Philippines, through The Synergy Project, conducted a comprehensive review to assess the current design of the HIV sentinel surveillance system and to recommend measures to strengthen the system and refine national guidelines and protocols for HIV surveillance.

Over a period of four weeks, the assessment team reviewed background documents and sentinel surveillance reports, held informative meetings, briefings, and interviews with an array of government staff, multilateral donors, international and representatives of local nongovernmental organizations (NGOs). Interviews were also conducted with representatives from the aforementioned organizations, as well various anonymous persons from the communities of men who have sex with men (MSM), female sex workers (FSWs), and injecting drug users (IDUs).

KEY FINDINGS

The assessment team found weaknesses regarding the identification and selection of the survey populations, coverage of the surveys, sampling and mapping methodology, data management, and analysis and use of the information. The team also found some weaknesses in the institutional arrangements in regard to the logistical support system, and noted the need to revisit the current testing method, particle agglutination (PA), vis-à-vis the enzyme-linked immunosorbent assay (ELISA) testing method. It was also noted that decentralized HIV screening was prone to quality-control problems.

Identification and selection of survey populations were static. There was a lack of effort to identify new high-risk populations, as surveys continued to focus on populations selected by the ASEP. ASEP targeted four risk populations in 10 Philippine cities:

- registered female sex workers
- freelance female sex workers

- men who have sex with men
- injecting drug users

Inclusion and exclusion criteria for the target populations were inconsistent. Across sites, there were no standard criteria guidelines for selection of some of the identified groups, namely freelance FSWs and registered FSWs.

Coverage of the surveys varied across survey sites and rounds, primarily because risk populations that did not attain the required sample size in a particular round at a site were dropped from subsequent survey rounds (as recommended by a USAID-commissioned external evaluation team in 1997).

Sampling and mapping methodologies did not measure up to the expected standard. Sampling procedures varied across sites and over periods. Sometimes it was systematic, but it was most commonly based on convenience sampling. For the most part, sentinel surveillance sampling methodology used in the Philippines is likely to result in biased samples from easy-to-get respondents. This translates into biased estimates. The problem may be partly attributed to a lack of proper, comprehensive sampling guidelines. HIV sentinel survey procedures manual guidelines on mapping were found to be inadequate and likely to lead to biased sampling of the most easily accessible populations. The manual does not cover details of sample selection within a particular site.

The HIV sentinel survey and BSS are conducted separately and use different methodologies to determine sample sizes. The former uses the lot quality assurance sampling (LQAS), whereas the latter is based on power sampling (to detect an increase of 20% in condom use). BSS sample sizes are uniform at each site. Although sample sizes were adequate, and based on acceptable methodology when the present system was initially set up, there is now a need for review to adjust sample sizes to match the most recent, accurate prevalence estimates. In addition, data analysis and interpretation did not factor in adjustments to account for the respective sampling methodologies.

Use of the information sometimes entailed breach of confidentiality (e.g., some sentinel data were used to identify HIV-positive cases). There was also evidence of violation of anonymity and confidentiality. In some cases, surveillance data had been used for case-finding. The surveillance team seemed unclear about the purpose and use of surveillance data as opposed to case identification. Such cases might make survey subjects lose confidence in the system and therefore be reluctant to participate in future testing.

Institutional arrangements proved to be a constraint in terms of **logistics**. Since the end of the ASEP, the local government units (LGUs) have carried out HIV sentinel survey at all 10 original sites. This transition has created numerous logistical problems. Sites have failed to pay personnel, run out of reagents and, on occasion, failed to procure supplies because of budget delays. The transition in management from the ASEP to the LGUs has presented an institutional constraint to the system.

Data management and analysis. The reporting format used by sites to report to the AIDS registry varied across sites. There was no systematic logging of changes made to the data in the AIDS registry, and there were no regular backups. The coding system was not robust enough to systematically identify duplicated cases or to enable follow-up on specific cases. The data collection

instruments did not provide for collecting data on residence and AIDS-related illnesses. The system was not using the data optimally for decision-making.

In view of all the constraints at the DOH/NEC, the HIV sentinel survey has been well implemented. The active participation of the LGUs at the sites and of their partner NGOs is testimony to the successful efforts of the NEC.

KEY RECOMMENDATIONS

Conduct ongoing revision of the target populations for surveillance to enhance surveillance. The DOH should initially take advantage of relatively inexpensive collection of additional data to support identification of new high-risk populations. Blood-sampling organizations, such as blood banks, for example, could contribute to the identification of new high-risk populations by reporting HIV-positive cases and the total number of tests performed in a given period to the DOH in a timely manner. This data would serve the dual purpose of identifying new high-risk populations and contributing to prevalence estimates.

Broaden the scope of the surveillance by selecting additional sentinel surveillance sites among clinics servicing overseas Filipino workers (OFWs). Obtaining data on total sample tested at blood banks and total sample for Filipino foreign workers tested would be a good place to start implementing some of these suggestions.

Standardize definitions of freelance FSWs and registered FSWs across sites. The DOH and the sites should work together to develop the criteria. In addition, at the sampling stage, distinction between freelance FSWs and registered FSWs should be ignored so that the sample is based simply on the definition of a FSW. There is no apparent advantage to conducting separate surveys for registered and freelance female sex workers. A single survey on female sex workers would allow for stratification of results according to standard definitions.

Use mapping to identify and sample the target population rather than convenience sampling. Appropriate mapping strategies should be employed to properly estimate the sizes of target populations and to obtain unbiased samples.

Conduct the HIV sentinel survey in tandem with BSS to save resources and minimize intrusion on the target populations.

Improve data collection by expanding the scope of existing data sources to include blood banks and testing (e.g., of OFWs).

Base sample size calculations on the precision of prevalence estimates. Such sample sizes would permit comparisons across surveys. Based on available estimates, the assessment team recommends a joint HIV sentinel survey–BSS sample size of 385 of all risk populations by random sample at each site. When more complex sampling procedures are used, the sample should be adjusted accordingly.

Conduct more training on compliance with survey protocols to help guarantee anonymity and confidentiality of survey data. Centralized HIV screening would help meet this need.

Evaluate applicability and convenience of new ELISA tests used with centralized processing. Integrating ELISA tests could result in improved reliability of test results between sites and across countries while preserving the anonymity of test results. The testing capabilities of individual sites should be retained for case-finding purposes and each site should be encouraged to set up voluntary counseling and testing (VCT) centers.

Streamline institutional responsibilities to make the system more efficient and reliable, assigning overall responsibility for planning, guiding, monitoring, and HIV testing at the national level, and allowing LGUs to focus on implementation of sentinel survey activities at the site level.

Yearly administration of HIV sentinel survey activity, for example, should remain the responsibility of the DOH/NEC, since it is national in scope, while LGUs and their partner NGOs should continue to be responsible for implementation of sentinel survey activities at the site level only.

Resolve data management and security issues at the DOH/NEC by adopting better data management systems and hiring adequately trained personnel. The AIDS Registry could also benefit from improved reporting and compliance (with reporting requirements of field sources and in data management).

Make better use of surveillance information for program implementation. In general, the wealth of information gathered through surveillance does not seem to be fully utilized at the DOH for programming intervention. The programs implemented during the lifetime of ASEP have been largely discontinued at the sites. It would be most beneficial for the DOH/NEC as well as the LGUs to apply surveillance results to their national program planning in order to maximize effectiveness.

ABBREVIATIONS AND ACRONYMS

AIDS	acquired immunodeficiency syndrome
ASEP	AIDS Surveillance and Education Project
BSS	behavioral surveillance survey
DE	design effect
DOH	Department of Health
ELISA	enzyme-linked immunosorbent assay
FHI	Family Health International
FSW	female sex worker
HIV	human immunodeficiency virus
HSDS	Health Services Delivery and Support Program
HSS	HIV sentinel surveillance
IDU	injecting drug user
IR	intermediate result
LEAD	Local Enhancement and Development for Health Project (MSH)
LGU	local government unit
LQAS	lot quality assurance sampling
MSH	Management Sciences for Health
MSM	men who have sex with men
MSTI	male STI patient
NEC	National Epidemiology Center
NGO	nongovernmental organization
NHSS	National HIV Sentinel Surveillance
OFW	overseas Filipino worker
PA	particle agglutination
PNAC	Philippine National AIDS Council
RITM	Research Institute for Tropical Medicine
SACCL	STD/AIDS Cooperative Central Laboratory
SHC	Social Hygiene Clinic

SOW	scope of work
STI	sexually transmitted infection
UNFPA	United Nations Population Fund
UNAIDS	Joint United Nations Programme on AIDS
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VCT	voluntary counseling and testing
WHO	World Health Organization

INTRODUCTION

USAID/Philippines (the Mission) asked The Synergy Project to provide technical support to review and assess the Philippines National HIV Sentinel Surveillance (NHSS) system and to make recommendations to strengthen the system. Specifically, the Mission requested a Team Leader with expertise in surveillance, epidemiology, and BSS/ HIV sentinel survey design, and two local consultants with expertise in DOH and LGU health systems in the Philippines. The research team was asked to address the following components of HIV surveillance:

- Choice of surveillance population
- Inclusion and exclusion criteria
- Mapping and sampling methodologies
- Sample size and lot quality assurance methods
- Protocols for anonymity and confidentiality
- Organization/sustainability of national and LGU-level HIV surveillance efforts

The assessment team spent four weeks in the field (10 October to 6 November 2004) to conduct the review. The draft report was prepared by the Team Leader and other team members and submitted to the Mission prior to the Team Leader's departure from Manila. This final report is a collaborative effort with the Synergy staff in Washington, D.C., who provided technical input and guidance in its preparation. It presents the research methodology, findings, and recommendations of the assessment.

The assessment team consisted of two epidemiologists with a strong background in sentinel surveillance and a medical doctor with more than 20 years of experience in public health. The team's first task was to meet with Mission staff to seek clarification on the scope of work, agree on the approach and implementation plan, and get additional information and background documents. Team members then reviewed the background documents, conducted the fieldwork, attended a pre-planned workshop, compiled the findings, and prepared the final report.

Fieldwork plan, background document review, preparation of instruments. The assessment team spent the first two days of the project finalizing the work plan, reviewing background documents, and preparing instruments and tools for data collection. As per their final work plan, team members set out to: (1) meet and interview government, international, and NGO staff at the headquarter level; (2) participate in a national workshop on sentinel surveillance; (3) make field visits to interview all sentinel site team leaders in Cebu City; and (4) visit and conduct interviews at various sentinel sites. After spending the first week together, assessment team members split up in order to cover more sites within the available time frame.

Documents reviewed by the assessment team included procedures manuals for Philippine HIV sentinel survey, BSS, and the sentinel STI etiologic surveillance system, *NEC Technical Reports*, *AIDS Registry Monthly Updates*, and the *Final Evaluation Report* of the ASEP. Based on this review, the team identified key issues and questions to explore during the field interviews. The key issues included: Philippine identification and selection of surveillance target populations, the methodology used to select samples from the target populations, management and analysis of the data, and if/how the data were used as guidance for decision-making. Other issues included protocols for data collection, anonymity and confidentiality, the type of data collected/not collected, laboratory procedures, the AIDS registry and its institutional framework, and various roles within the national surveillance system.

Headquarters-level interviews. The team spent the first seven days of the assessment collecting information from organizational staff at the headquarters level. Organizations included relevant DOH units and other governmental agencies, international organizations, and major NGOs working in areas directly linked to Philippine HIV/AIDS sentinel surveillance. National organization interviewees included staff from the Overseas Workers Welfare Administration, the Philippine Overseas Employment Administration, and the following DOH units: Bureau of Health Facilities and Services, Bureau of International Health Cooperation, NEC, Philippine National AIDS Council (PNAC), Research Institute for Tropical Medicine (RITM), and the STD/AIDS Cooperative Central Laboratory (SACCL). International organization interviewees included staff from the Joint United Nations Programme on AIDS (UNAIDS), World Health Organization (WHO), United Nations Population Fund (UNFPA), and United Nations Children's Fund (UNICEF). Interviewees from major cooperating agencies/NGOs included staff from the Local Enhancement and Development (LEAD) project, Family Health International (FHI), and the Philippines NGO Council (for the complete list of interviewees see Annex B). The interviews were conducted according to the work plan and schedule. They were not structured but covered the following themes:

- knowledge about the sentinel surveillance system
- role of each organization or individual within the system
- use of information from the surveillance system
- satisfaction with the present system or with any of its developments
- potential usefulness and actual use of surveillance data as guidance in HIV/AIDS interventions
- recommendations about data and system needs

National Workshop. The assessment team participated in a two-day workshop—"Validation and Consensus Building Workshop on the Revised HIV Behavioral Surveillance System." The workshop, attended by HIV surveillance site team leaders and others covered the results of ad-hoc reviews conducted by the DOH over a three-year period preceding the assessment to generate recommendations to improve sentinel surveillance using state-of-the-art knowledge existing in the Philippines and elsewhere. Participants discussed the results and agreed on recommended changes for the system. These included: (1) improved selection of target populations for HIV surveillance; (2) standardized definitions of FSWs, MSM, IDUs, and men at risk; (3) implementation of HIV behavioral and serologic surveys in tandem, when convenient; (4) inclusion of a single sample of FSW as a trial at some sites; (5) definition of institutional responsibilities for surveillance activities; and (6) improved questionnaires for each BSS target population.

Field-level interviews. The assessment team organized a meeting to interview surveillance team leaders from all sentinel sites in Cebu City. They also visited six of the 10 surveillance sites to conduct interviews. One member of the assessment team was designated to lead the interviews at each site while other assessment team members took notes. Site visits by the assessment team entailed meetings and interviews with City Health Department officials, surveillance team members, the chairmen of the Committee on Health of the City Council, HIV/AIDS clinicians, laboratory staff conducting HIV testing, leaders of entertainment establishments, local AIDS councils, and members of the target population.

Assessment team members visited the cities of Quezon, Cebu, Angeles, and Baguio. Dr. Fernandez visited General Santos City, while Drs. Saniel and Cárcamo visited Davao City.

All but three interviews were conducted according to the work plan. The assessment team found interviewees to be very cooperative and interested in the topic. Interviews with organizational authorities were all conducted in English, whereas interviews with some local site surveillance team members and target populations were conducted in Tagalog or other local languages.

Data analysis and reporting. The assessment team compiled, compared, and analyzed notes on a daily basis at all times when at the same location. If at different locations, team members updated each other using mobile phones. Cross-feedback was used to further guide subsequent data collection and synthesis activities. The team worked together for three days to synthesize the information and to prepare a draft report. It then conducted two separate debriefing presentations: one to the Mission and one to DOH authorities. Prior to the Team Leader's departure from Manila, the team submitted the draft report to the Mission. Team members received and incorporated comments on the draft and submitted the revised report to the Mission.

PROGRAM DESCRIPTION

The first case of AIDS was reported in the Philippines in 1984, and the national epidemic has progressed since then. The Philippines, however, remains a low prevalence country, with infection rates, even among high-risk populations, at less than 1%. UNAIDS estimated that, at the end of 2001, 9,400 adults and children were living with HIV/AIDS in the Philippines. Annual numbers of reported AIDS cases have risen steadily, from 2 in 1984 to 57 in 1994. Since 1997, the numbers have ranged from a minimum of 23 (1997) to a maximum of 78 (1999). As of August 2004, the Philippine AIDS registry had recorded 2,139 confirmed HIV cases, including 670 AIDS cases.

HIV sentinel surveillance. In 1986, HIV/AIDS was classified as a notifiable disease, and in 1987 the Philippine DOH/NEC launched a passive surveillance system to track the spread of the epidemic—mainly the compilation of reported cases by a national registry. The Philippine National AIDS registry passively logs Western blot-confirmed HIV/AIDS cases reported by hospitals, laboratories, blood banks, and clinics. This system has definite limitations in supporting an effective HIV/AIDS response, as the information it compiles is inadequate for monitoring trends of HIV prevalence within the target populations.

To address this limitation, in 1993 the DOH established the NHSS through the USAID-funded ASEP, with technical assistance from WHO. The DOH began using the system's HIV sentinel survey component in 1993, followed by a behavioral surveillance survey component in 1997.

HIV sentinel survey comprises independent, cross-sectional studies directed to specific populations to determine levels and trends in HIV seroprevalence at selected sites. First implemented at two sentinel sites in 1993 (Quezon City and Cebu City), HIV sentinel survey was expanded to four more sites in 1994 (the cities of Davao, Angeles, Iloilo, and Pasay). In 1995, three more sites were added—the cities of Cagayan de Oro, General Santos, and Zamboanga, followed by the tenth site, the city of Baguio, in 1996. Surveillance was focused on high-risk populations, based on the rationale that increments in HIV prevalence would first be noticed among those populations. The main populations monitored were registered FSWs, freelance FSWs, MSM, and IDUs. Other populations studied in isolated rounds were male STI patients (MSTIs), clients of FSWs, and men at risk. Surveillance rounds were conducted every six months from 1993 through 1996. Testing for syphilis was added to the HIV sentinel survey in 1994.

As recommended by a USAID external evaluation team, the frequency of HIV sentinel survey rounds was reduced to once a year in 1997, and only a limited number of high-risk populations were retained in the survey because of the small populations of many of the populations at certain sites. NHSS implemented the BSS component, in lieu of a second round of HIV sentinel survey, in 1997.

The BSS component consists of the collection of data on levels and trends of behaviors that increase the risk of HIV transmission. Through support from ASEP, HIV Behavioral Surveillance (HBS) was established at all 10 sites conducting HIV sentinel survey in 1997 to survey the same at-risk populations. BSS studies conducted by independent institutions at eight of the 10 participating sites found high frequencies of risk behaviors (i.e., unprotected sex, needle-sharing among IDUs, and sub-optimal health-seeking behaviors).

The Philippines was one of the first countries to establish HIV sentinel surveillance. Many countries have since established similar systems. This spread of sentinel surveillance has generated new knowledge that could be used to improve current systems in the Philippines and elsewhere. Recognizing the need to take advantage of new knowledge in this area, the Philippine DOH requested an assessment to review and make recommendations to strengthen the existing system.

FINDINGS

CHOICE OF SURVEILLANCE POPULATION

Philippine sentinel surveillance focuses on four high-risk populations at 10 sites: registered FSWs, freelance FSWs, MSM, and IDUs. These populations were identified as key potential bridges for transmission of HIV/AIDS to the general population. It is estimated that, in the Philippines, HIV prevalence for these four populations may be below 5% (within the general population, prevalence may even be below 1%). Prevalence has been studied at all 10 sites (Quezon City, Cebu City, Davao, Angeles, Iloilo, Pasay, Cagayan de Oro, General Santos, Zamboanga, and Baguio) for registered FSWs, freelance FSWs, and MSM. Because of the inability of some of the sites to attain the planned sample size, however, surveys of MSM were discontinued in six of the cities (and were thus carried out only in the cities of Quezon, Cebu, Baguio, and Zamboanga) in 1993. IDUs are currently only screened in the city of Cebu.

There was no evidence of efforts or mechanisms to identify new risk populations, even though—with little extra effort—data on HIV testing of blood donors and overseas Filipino workers could be obtained and used to help clarify the status of the epidemic. The use of such data has been limited based on the lack of a denominator (i.e., although the national AIDS registry does receive the number of positive HIV/AIDS cases from blood-bank or OFW testing, it does not receive information on the total number of samples).

INCLUSION AND EXCLUSION CRITERIA

Because the definitions for registered FSWs and freelance FSWs are not standardized, inclusion and exclusion criteria described in the HIV sentinel survey /BSS operations manuals are interpreted differently across cities. As the surveillance sites have never come to a consensus regarding standardized definitions of the two populations, it has been impossible thus far to differentiate one from the other. In general, survey sites do not apply standard criteria in the selection of FSWs. For example, the same person may be classified as a registered FSW at one site and freelance FSW, or both (i.e., FSWs with Hygiene Cards who perform freelance work during time off from registered establishments) at another. Some FSWs, such as those working in specific types of unlicensed establishments (i.e., “casas”), may not fit either classification according to definitions used at some sites. Some sites use possession of a Hygiene Card as a classification identifier, while others classify FSWs according to their type of employment (e.g., with a licensed or unlicensed establishment). Some sites use access to an STI health facility as a criterion for population classification, while others simply use the location of the subject at the time of recruitment. Because these criteria are not mutually exclusive, they often overlap. Caution should always be used in defining and applying standard criteria, however, to avoid excluding eligible subpopulations from the surveys.

Inclusion and criteria for three other high-risk populations (MSM, IDUs, and men at risk) were not found to be controversial. Criteria for inclusion of these groups in surveillance, agreed to at the “Validation and Consensus Building Workshop on the Revised HIV Behavioral Surveillance System,” are listed below (see Table 1).

Table 1. Definition of core at-risk populations

Female sex workers	both registered and unregistered (known as “freelancers,”) who sold sex in the past month
Men who have sex with men	who had oral/anal sex with another man in the past year
Injecting drug users	who had injected drugs in the past six months
Men at risk	who belong to a certain occupational cohort known to frequent FSW sites

Source: Report on “Validation and Consensus Building Workshop on the Revised HIV Behavioral Surveillance System.”

MAPPING AND SAMPLING METHODOLOGIES

National procedures manuals. Early in the ASEP, there were no written guidelines on how to recruit high-risk populations. Therefore, the mechanics of mapping points of access to target populations may have been unclear to surveillance teams. In many instances, no mapping was conducted.

Proper sampling methodologies are not addressed in current procedures manuals. The procedures manual for HIV sentinel survey highlights the importance of mapping, but focuses on areas with a high probability of recruitment. It suggests “ease of accessing the high-risk groups, security of the field staff, cost, and privacy for conducting data/blood collection” as priorities in choosing data collection sites and provides lists of possible locations for accessing each target population. It does not provide any details about mapping. Site mapping in this manner can create a survey bias toward the more accessible subpopulations. The HIV sentinel survey manual proposes random selection of sites with probabilities of selection proportionate to the population size of each site. It also suggests the assignment of a quota for each selected site proportional to its population size. The manual does not describe any method for selecting participants within a specific site. The *BSS Manual of Procedures* suggests essentially the same mapping and sampling procedures but provides even less detail than the HIV sentinel survey manual.

Implementation of sampling procedures. According to local surveillance teams, sampling for registered FSWs has not been consistent. In some cases, sampling is systematic¹; in other cases, convenience² or time-location sampling³ is used. For the other target populations—freelance FSWs, MSM, and IDUs—convenience sampling or snowball sampling is used, according to local informants.

As summarized by Dr. Ric Mateo, a former National HIV/AIDS/STI Surveillance Officer, no systematic time-location sampling was done for surveillance of registered FSWs or freelance FSWs, especially in the earlier rounds. It is possible, therefore, that surveillance teams mainly enrolled members of the high-risk populations that were easiest to reach. This type of sampling could have introduced bias in survey estimations, because members of the relatively easy-to-reach populations

¹ A random sample consisting of multiples of a given number; plus a single random number; for example, selecting a random number between 1 and 5, say 3, and then selecting one participant in every 5 candidates: 3, 8, 13, 18...; the step size depends on the proportion of the population to be sampled.

² This refers to an arbitrarily selected sample of the easiest to access participants.

³ Probabilistic cluster sampling, where clusters are defined as specific times and locations; therefore the same location can act as more than one cluster.

are likely to differ from those of hard-to-reach populations in many ways, including their behaviors related to the risk of HIV and STI infection. These differences may also be reflected in STI and HIV prevalence rates.

Caution on sampling HIV sentinel survey and BSS separately. At present, HIV sentinel survey and BSS are implemented as independent activities. Thus, each activity drains scarce resources separately while meeting the same obstacles in accessing high-risk groups. Because of limited access to high-risk populations, these two types of surveys will most likely duplicate efforts by sampling the same, easily accessible subjects.

SAMPLE SIZE AND QUALITY ASSURANCE

HIV sentinel survey. The current HIV sentinel survey uses a sample size of 300 (per survey round) from each of the 10 sites. This sample size was derived using the LQAS method, with a threshold prevalence of 1% for HIV, 95% significance, and a maximum of 0 positive samples to reject the null hypothesis. Population size was assumed to be infinite.

Despite the use of LQAS, comparison of the HIV sentinel survey procedure manual and the HIV sentinel survey findings suggest the need to revise the sample size calculations, to ensure more accurate estimates of the target population's HIV prevalence. Due to a misinterpretation of LQAS, reports from previous survey rounds showing HIV prevalence of 0.33% (one positive out of 300 samples tested) are mistakenly interpreted as suggestive of a population prevalence equal to or greater than 1%. The correct interpretation for such results should be that HIV prevalence equal to or greater than 1% *cannot be ruled out*.

In addition to the revision of sample size calculations, observed prevalence levels should trigger some action in terms of prevention interventions to control the spread of HIV infections. However, the assessment team found no evidence of any action to adjust sample size or to program such interventions.

Behavioral surveillance survey. The current BSS uses a sample size of 120 (per survey round) from each of the 10 sites. This sample size was designed to detect—with a 95% confidence interval and 80% power—a 20% increase in condom use between two rounds of surveys. A “design effect” (DE) of 1.23 was used to account for complex sampling. The BSS procedures manual proposes that the data be used to construct descriptive tables and includes only one sentence about comparison across rounds (the basis for the sample size calculation). There is no suggestion to adjust complex sampling (the basis for the use of a design effect in the sample size calculation). Reports and interviews suggest that only descriptive analysis has been carried out in current BSS, with no adjustment for complex sampling.

PROTOCOLS FOR ANONYMITY AND CONFIDENTIALITY

Sentinel surveillance protocol calls for anonymous surveys. However, because the surveillance sites perform HIV screening and receive the coded confirmatory test results, some were able to identify those infected with HIV through the surveys. Sites then used this information to conduct case-finding. The use of surveillance information for case-finding demonstrates confusion about the purpose of each of these two public health tools. Members of the surveillance teams seem to be

confused about this phenomenon as well. The difference between surveillance and case-finding cannot be over emphasized. HIV surveillance is a tool to direct public health intervention programs in an appropriate and timely manner. It is not a tool to direct clinical case management actions based on the identification of an HIV-positive case.

ORGANIZATION/SUSTAINABILITY OF NATIONAL AND LGU-LEVEL HIV SURVEILLANCE EFFORTS

Since the end of the ASEP Project, surveillance sites have conducted the HIV sentinel survey on their own (i.e., they have provided the necessary resources to carry out the activity). Data analysis and preparation reports have been carried out at the local level and submitted to the DOH. Participation by DOH has been limited, in most cases, to the confirmatory test and some level of quality assurance for the screening test. In isolated cases, the DOH also supported the procurement of diagnostic kits for screening.

The assessment team found that the surveillance sites face several logistical constraints within this institutional framework. These included: non-payment for overtime done by Social Hygiene Clinic personnel (nearly universal); delays in budget release for supplies; absence of local supplier for reagents; and, in one case, prohibitive cost of reagents from the local supplier. The non-payment of overtime is a critical problem because the surveillance personnel need money to carry out certain tasks, including the transport of recruits very late at night.

OTHER FINDINGS AND RECOMMENDATIONS FOR SENTINEL SURVEILLANCE

LABORATORY PROCEDURES

Sentinel surveillance laboratory work is decentralized. Laboratories located at each site screen the blood using the particle agglutination test. The test is performed in pools of five samples each.

The processing of screening tests for surveillance at the local level entails a great deal of work and investment for proficiency testing and quality control across all sites. Despite these efforts, some level of variability across cities occurs due to various factors affecting test performance that cannot always be accounted for. Within the Philippines, variations in these factors across different sites limit the comparability of surveillance results across cities. At the international level—because the ELISA is the preferred test for surveillance worldwide—Philippine surveillance results may not be comparable with those of other countries.

The selection of the PA screening test and pooling methodology used in Philippine laboratories was based on a study published 12 years ago in the journal *AIDS* (6: 43–8). The study showed similar performance of PA as compared with the ELISA tests available at that time. Pooling did not affect the performance of the test. Other reasons for choosing PA included its low cost and convenience: it could be used in small laboratories with limited infrastructure, and it allowed for the processing of a small number of samples. Because of these features, PA was an appropriate choice for the initial stages of the Philippine national surveillance system. Since then, however, the evolution of HIV testing protocols suggests this choice should be reconsidered.

DATA MANAGEMENT AND ANALYSIS

The assessment team identified various problems in data management at the central level. These included the practice of modifying data in tables without keeping a log of changes, the absence of data backup systems, and relatively frequent changes in the personnel handling the databases. These problems affect the handling of survey data as well as maintenance of the AIDS registry. Therefore, the assessment team recommends additional training and/or support in data management to ensure proper handling of surveillance data.

According to all available survey reports, data analysis was carried out by personnel in the participating cities and submitted to DOH. No further analysis was performed at the central level.

AIDS REGISTRY

Reporting format. During visits to laboratories reporting HIV infections to the national AIDS registry, no clear understanding of the use of reporting formats was observed. Although the official reporting format for confirmed infections was available at some of the laboratories, a different format—lacking some of the variables needed for the registry—was in use at one of the laboratories visited. This problem contributes to data gaps in the registry.

Coding system. Many cases logged in the AIDS registry were identified by codes assigned by the reporting unit. This coding system does not permit identification of duplicates between reporting units or for linking of reports on a subject's disease progression. Nevertheless, it was determined that within database records containing a valid date of birth there were at least 40 duplicates (patient identification and dates of birth). The date of birth is missing in 32% of reported cases.

Incomplete forms. The official case report form includes space for an address, but many patients apparently decline to provide it. This has resulted in missing data on place of residence for 40% of the 2,139 reported cases of people living with HIV/AIDS. The assessment team recommends that the location of the reporting agency—which is included in the report form but not currently entered into the database—be used as a proxy for subject's place of residence.

Potential bias in blood bank data. Because subjects reporting risky behaviors (regarding potential HIV transmission) are not allowed to donate blood, blood bank reports frequently exclude information on route of transmission. This contributes to the data gap in the AIDS registry and adds risk of bias.

Weakness in capturing progression to AIDS and AIDS-defining illnesses. Although the official surveillance report format requires new reports on subjects' progression to AIDS and death, and the structure of the database allows for entry of disease progression updates, the national AIDS registry has no information on disease progression. Reporting units are not encouraged to submit reports on disease progression and, apparently, they seldom do. In addition, in most cases, more than one report on the same individual (e.g., disease progression, death) is interpreted as duplication, and the information is therefore ignored.

The AIDS-defining illness for AIDS cases is given secondary importance and is recorded as "miscellaneous information."

CONCLUSIONS AND RECOMMENDATIONS

CHOICE OF SURVEILLANCE POPULATION

The main weaknesses in the selection of Philippine surveillance populations are: (1) target populations for HIV surveillance are not reviewed, and (2) there is no ongoing search for new high-risk populations. The assessment team recommends that the DOH actively search for new high-risk populations. A good starting point would be collection of the relatively inexpensive data from total samples tested among blood donors and overseas Filipino workers. In addition, the DOH should secure resources to support initiatives toward finding new high-risk populations.⁴

The need for active, ongoing identification of high-risk populations could be partially met through networking with NGOs that have interests in special populations. Family Health International/Philippines, for example, has initiated activities that will lead to the development of a protocol for assessing and identifying the presence of high-risk populations at current sentinel sites and in other areas of the country. The DOH should support and consider using results from this initiative.

Blood banks and the Association of Medical Clinics for Overseas Workers report HIV cases among tested samples from both blood donors and OFWs. In addition to reporting positive cases, these organizations should report, in a timely manner, the total number of tests performed during specific periods to enable calculation of more accurate prevalence estimates. Such estimates would support efforts to identify new high-risk populations via a minimum investment.

In addition, new sentinel surveillance sites could be selected from clinics doing HIV tests for OFWs. OFWs who attend the clinics could be invited to volunteer in the survey and complete a short, self-applied questionnaire. The criteria and mechanics for selecting the new sentinel surveillance sites and the means of collecting the necessary information from OFW survey volunteers should be carefully planned.

INCLUSION AND EXCLUSION CRITERIA

To date, no standard definitions for registered FSWs and freelance FSWs have been used at the surveillance sites, and the definitions currently in use may exclude some FSW subpopulations from participation in the surveys. The DOH and surveillance site teams should collaborate to develop standard definitions for these two populations, and the possibility of exclusion of some FSW subpopulations based on the current definition should be noted.

The assessment team recommends that the distinction between registered FSWs and freelance FSWs be relaxed during the sampling stage. There does not seem to be any compelling reason to differentiate these two populations during recruitment.⁵ Members of both populations could be assigned to the category of FSW, and a single set of inclusion/exclusion criteria could be established and adopted at all sites.

⁴ In this report, the term “new high-risk populations” is used to indicate one of two things: (1) a population that has been identified and accessed at other sites but has not been accepted as present at the site in question (e.g., IDUs), or (2) an entirely new population not previously classified as high-risk.

⁵ The concern that the use of one classification comprising both registered FSWs and freelance FSWs would impede estimations of indicators for program impact among registered FSWs is unfounded for two reasons: (1) if relevant information for classification of sex workers is collected (e.g., exposure to intervention programs, place of work, source of health care, etc.), the data can always be disaggregated at the analysis stage, and (2), in the extreme case of randomly recruiting only a small proportion of registered FSWs in the sample, disaggregation would become irrelevant, as the findings would be capturing actual limited coverage of health services for FSWs. In this case, any effect measured in the population with access to health care at SHCs would have no impact at the population level.

This proposed joint recruitment methodology offers additional advantages by:

- allowing for use of the survey sample and list of registered sex workers at Social Hygiene Clinics (SHCs) to estimate population size for FSWs (via capture–recapture method)
- providing the possibility of estimating coverage of periodic screening carried out by the SHCs
- expanding access to general care.

As noted above, the use of this methodology would require comprehensive mapping of the at-risk population.

MAPPING AND SAMPLING METHODOLOGIES

The HIV sentinel survey procedures manual does not give enough detail on sampling methodologies for HIV surveillance. Although several methods have been used in the field, none is close enough to a probabilistic sample. As a result, enrolled samples are likely to be biased. The assessment team proposes that new sampling guidelines be prepared to standardize sample selection through uniform mapping techniques. Along with the new guidelines, survey teams should be offered training on mapping and sampling methodology. Comprehensive mapping of at-risk populations could be used as a sampling framework for selection of participants and for estimations of population size. A random sample could then be selected using time–location sampling (if the population identified was larger than the proposed sample size). Or, the survey could include the entire identified population.

The accuracy of the information obtained from mapping would depend largely on the quality of the mapping efforts, including timeliness of the study and the sample size of target audiences at each location. The assessment team suggests that this task be reserved for NGOs or research agencies that are not affiliated with the government. Government agencies, including SHCs, may not be effective in accessing high-risk populations because the facilities are always associated with law enforcement agencies.

Surveys have been carried out within a 40- to 60-day period for all at-risk populations and sites. Synchronized sampling of a specific population across cities reduces the probability of duplicates and increases comparability of results. Conversely, no advantage is seen in synchronizing surveys of different populations, which may generate logistical problems. Therefore, the assessment team proposes that surveys be synchronized across cities for specific populations, but not across at-risk populations. It also recommends that (1) surveys across different at-risk populations be phased out (to reduce the load on fieldwork personnel and laboratories), and (2) the duration of surveys be adjusted to facilitate enrollment of hard-to-reach populations (i.e., the 45-day cap may not be necessary for these populations).

HIV sentinel survey and BSS are currently implemented as independent surveys. Conducting HIV sentinel survey and BSS in tandem could produce significant savings in resources. Implementing BSS first would allow for the establishment of rapport and a better understanding by the survey subject of the activity and its implications for health. This, in turn, could reduce the refusal rate for HIV sentinel survey blood drawing.

SAMPLE SIZE AND QUALITY ASSURANCE

In the past, LQAS was used to determine HIV sentinel survey sample size. For BSS, sample size was determined based on the ability to detect a 20% increase in condom use. The implications of these methods have not been sufficiently considered in terms of the interpretation of surveillance results. Different sample sizes have been used for BSS and HIV sentinel survey.

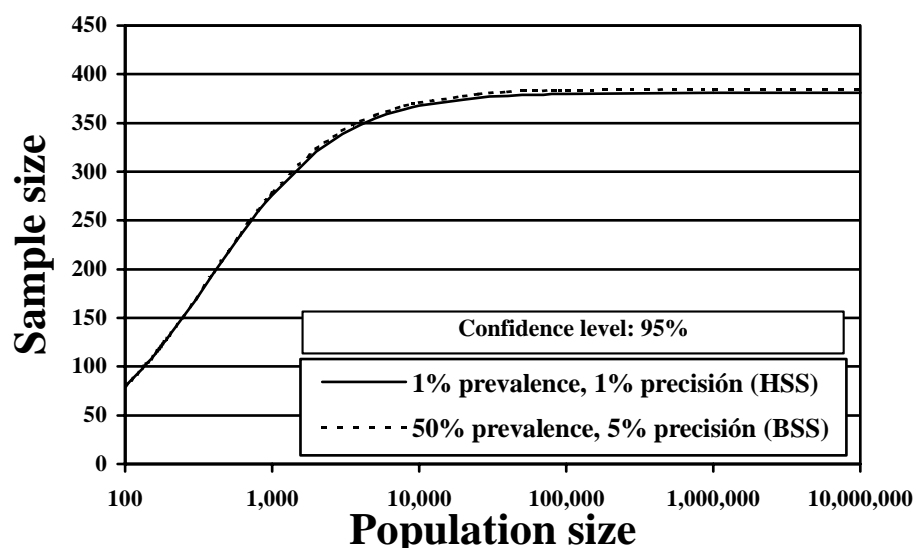
The assessment team recommends that sites use one constant sample size for both HIV sentinel survey and BSS. Suggested initial target sample size is 385 for a simple random sample for all at-risk populations in each city. This sample size would provide estimates of prevalence with a precision of 1% or better for HIV prevalence no larger than 1% for the HIV sentinel survey, and a precision of 5% or better for any dichotomous variable for BSS, or 97.5% confidence for a threshold of 1% in prevalence (using LQAS). This number does not account for complex sampling. Therefore, if complex random sampling is used, the proposed sample size would have to be multiplied by the design effect. The number used previously for DE (1.23) was obtained from the 1993 *Philippine National Demographic Survey* and may be too optimistic for BSS. Data from previous rounds would provide a better estimate of DE, which depends on **the average size of the clusters** included (\bar{n}) and the **intraclass correlation coefficient** (ρ):

$$DE = 1 + \rho(\bar{n} - 1)$$

Due to the skills needed to estimate these parameters, it is recommended that the DOH employ a biostatistician to estimate both the DE and the required sample size.

In the following rounds, when good estimations of the population size are available for specific at-risk populations, the sample size should be adjusted to reflect finite sample size (see Figure 1).

Figure 1. Sample size as a function of population size for prevalence studies



The preliminary sample size proposed at the consensus-building workshop in Cebu City (see p. 2) calls for similar or smaller sample sizes, particularly for HIV sentinel survey. The assessment team believes a sample size of 200 would still provide acceptable precision for estimates of HIV prevalence in low-level epidemics (see Table 2).

Table 2. Estimates of precision from different sample sizes, expected prevalence, and population sizes

Sample size	Expected Prevalence					
	1%		5%		10%	
	Population size		Population size		Population size	
	Infinite	1,000	Infinite	1,000	Infinite	1,000
200	1.38	1.23	3.02	2.70	4.16	3.72
300	1.13	0.94	2.47	2.06	3.39	2.84
400	0.98	0.76	2.14	1.65	2.94	2.28
500	0.87	0.62	1.91	1.35	2.63	1.86

PROTOCOLS FOR ANONYMITY AND CONFIDENTIALITY

In some unfortunate cases, sentinel surveillance data have been used for case-finding (i.e., local surveillance sites have used surveillance information to identify HIV-infected persons). This suggests that the current surveillance system does not guarantee true anonymity and does not maintain confidentiality.

Clearly, there is a need to ensure strict adherence to surveillance protocol for anonymity and confidentiality. Therefore, the assessment team recommends that, for purposes of surveillance, HIV screening be centralized at the SACCL. This change may be necessary to preserve the trust of target populations in the system.

While the need for case-finding at the LGU level is understandably necessary, it should not be fulfilled at the expense of the intended purpose of surveillance. Identification of HIV/AIDS cases and tracking of HIV prevalence are critical elements of HIV/AIDS intervention programs. Therefore, rather than using surveillance data to track and follow up HIV/AIDS cases, surveillance sites should be used to provide advice and support through the establishment of VCT centers to screen, identify, counsel, and follow up HIV-positive individuals.

ORGANIZATION/SUSTAINABILITY OF NATIONAL AND LGU-LEVEL HIV SURVEILLANCE EFFORTS

Since the end of the ASEP, LGUs have been responsible for implementing HIV surveillance. The assessment team found a number of difficulties caused by this transition, with lack of payment for overtime being the most common concern. Increased costs or absence of local suppliers for laboratory supplies were also raised as problems, as well as delays in availability of budgets for surveillance.

As HIV does not respect regional boundaries, surveillance must be a national activity. Therefore, it should be overseen primarily by the DOH. The assessment team recommends that the DOH take overall responsibility for sentinel surveillance, including the following specific tasks:

- setting guidelines for identification of high-risk populations, mapping, and sampling procedures

- data analysis
- procurement of reagents
- [ideally] laboratory HIV testing of blood samples

LGUs and their NGO partners should only be responsible for implementing sentinel survey activities at the site level.

OTHER FINDINGS AND RECOMMENDATIONS FOR SENTINEL SURVEILLANCE

LABORATORY PROCEDURES

The HIV sentinel survey uses PA to screen for HIV in pools of five blood samples. The sites carry out the screening. As mentioned above, this approach to HIV screening reduces comparability of results between sites and across countries.

To reduce local variability, as well as the costs and risk of breaches in confidentiality and to increase the sensitivity and comparability of HIV sentinel survey results, we propose HIV screening for sentinel surveillance be processed at the central level (without pooling), using the highly sensitive yet affordable ELISA format. This recommendation is based on the following considerations.

Although there are clear advantages in the use of PA for HIV screening at the local level when processing a reduced number of samples, we believe these advantages are limited to routine HIV testing (e.g., for VCT).

During the last decade, new generations of highly sensitive and inexpensive ELISA tests became available. When large numbers of samples are processed (i.e., batches of about 100 or more), and indirect costs of the test are taken into consideration, the cost of the new-generation ELISA test becomes lower than that of PA. In addition, SACCL has the infrastructure and skills needed to process ELISA for a large number of samples.

Although PA performed well in pools of samples, we feel it is risky to continue using this procedure because recent infections that could be detected with the new ELISA methods would most likely be missed by PA.

By applying the new ELISA test in one round, good estimations of the positive predictive value for the screening test would be obtained and available for use in future survey rounds. Because survey subjects do not receive their HIV test results, tests in subsequent survey rounds would be adjusted according to the test's positive predictive value to get an accurate HIV prevalence estimate without the need for a confirmatory test. This would save resources that would have been spent on confirmatory tests.

It is very important to emphasize that the assessment team does not propose dismantling the local HIV screening laboratories. Laboratories would still be needed at the sites to provide VCT services. Indeed, the ethics of the proposed surveillance would be questionable if no voluntary testing were available at participating cities. For the same reason, confirmatory test will still be needed at the central level.

Testing for syphilis should be kept at local laboratories and should be used to direct treatment.

DATA ANALYSIS

Several problems and limitations were identified concerning the way in which data from HIV surveillance are handled.

Data management, analysis, and dissemination. There is a need to strengthen data-handling capabilities at the central level. The central data-handling unit should draw up a comprehensive data management plan to address the problems described above. Additionally, the unit should secure the services of a skilled professional for proper analysis of the data collected in complex samples.

To further prevent the use of survey data for case-finding activities and to improve the use of the data collected, we propose that data analysis be performed at the central level. Reports from data analysis performed at the central level would be distributed for use in participating cities. These reports should include population estimates of number of cases, prevalence, and excess risk measures rather than absolute numbers of cases detected. The analysis performed should account for the weighting and grouping of data, if needed, and expansion factors should be computed.

These changes should not preclude analysis and interpretation of the surveillance data at the local level, especially when the reports distributed by the central level do not fit local needs.

Public access to raw data. Surveillance databases should be made available to individuals and institutions that may want to conduct secondary analyses of surveillance data. Reanalysis of data would permit the research community to shed light on theoretical or practical research issues/questions. NEC staff may not have the time, interest, or training for the complex analyses that may be required.

AIDS REGISTRY

Aside from several problems with the data handling system for BSS and HIV sentinel survey, several other areas needing improvement related to the AIDS registry were identified. Mainly, these include the lack of a standard form for case reporting, the lack of an appropriate case identifier variable, the registry's inability to properly capture disease progression of an HIV case, the lack of a proper geographic location identifier, and missing data.

To improve the quality of the AIDS registry data, the use of a standard case report form should be promoted and ensured, as well as a provision within the form for reporting disease progression. The official report form should be modified to include name initials (first, middle, last, and mother's maiden name) rather than internal codes. City or province and municipality of residence should also be required, rather than home address. The form should include description of screening test used, test result, and test date. Data on AIDS cases should include a description of the AIDS-defining illnesses or conditions.

More effort should be taken to ensure completeness and consistency of the data submitted in the registry report form. Special emphasis should be focused on collecting key information, namely the date of birth, which could be used as a unique identifier.

During data entry, separate records should be created for each new report in order to reflect disease progression or be used as evidence of survival. The data entry/reporting program should require the entry of information about the reporting agency. The program should be able to produce reports based on the total number of AIDS cases, filter out duplicates, and generate a log

of changes to existing records. It is also important that hard copies of all source documents be kept on file.

Data from anonymous unlinked surveillance studies should be excluded from the registry. Likewise, data from blood banks should be included only if the unique identifier can be recorded.

Good geographic data would help provide information about the distribution of cases, which would in turn provide an additional tool to help guide the selection of sentinel sites and populations.

CONCLUSIONS

With the assistance of the LGU sites and the invaluable participation of the local NGOs, the HIV sentinel survey has identified the appropriate high-risk target populations for future surveillance. However, newly present or entirely new categories of high-risk populations must still be sought out.

To obtain a fairly accurate picture of the size of any high-risk population, mapping strategies must be used. A good estimate of population size allows for site-specific adjustments in sample size. The process of sampling must be as probabilistic as possible. Purposive or convenience sampling must only be a last resort.

SACCL and the RITM should explore the possible use of newer, more appropriate screening tests for surveillance. Centralization of all screening obviates the performance variations expected from tests done at different sites. The screening test capability of the sites should be retained, however, as part of their case-finding facilities. If these capabilities do not yet exist, the sites should be encouraged to set up VCT centers.

Annual HIV sentinel survey should be the primary responsibility of the DOH as the national agency that sets guidelines for the conduct of surveillance, performs the screening tests, and analyzes the data. LGUs should handle local implementation at the sentinel sites, in partnership with their cooperating NGOs.

Much can be done to improve the management of surveillance data, such as having backups, recording changes in the databases, merging/linking data, and ensuring adequate training for data managers.

HIV sentinel survey was designed to monitor the progress of HIV infection in high-risk populations—in terms of both magnitude and the specific populations most affected—in order to improve the design of intervention programs. There does not seem to be much concrete evidence that data generated by the HIV sentinel survey have been utilized in this manner. Intervention programs designed and implemented at all ASEP sites showed much progress but, sadly, they have been discontinued.

The AIDS registry could be improved in terms of the design of its reporting form, compliance with reporting requirements from its information sources, and the management of its database.

All in all, in light of the ever-present constraints, the DOH, through the NEC, has done a magnificent job in fulfilling the obligations entailed in the HIV sentinel survey. Under the ASEP, much was accomplished in getting the LGU sites to fully participate in and assume ever-increasing responsibility for conducting HIV sentinel survey.

There are still many things that can be done to make HIV sentinel survey more timely, accurate, and thorough in its coverage of high-risk populations. The NEC appears to be moving in the right direction, and indications are that it will meet these goals in the near future.

ANNEXES

ANNEX A. STATEMENT OF WORK

Statement of Work
Strengthening HIV Sentinel Surveillance System
& Refining the National Guidelines and Protocols for HIV Surveillance
October 11 – November 5, 2004
Manila, Philippines

IDENTIFICATION OF THE TECHNICAL ASSISTANCE

USAID/Philippines seeks technical assistance services from The Synergy Project to provide an assessment team for the purpose of assisting the Government of the Philippines and USAID/Philippines in strengthening the country's HIV Sentinel Surveillance (HSS) system.

I. GENERAL BACKGROUND

A. USAID/Philippines Strategic Objective 3 (SO3)

The Strategic Objective 3 (SO3), 2003-2006 for USAID/Philippines' Population and Health Program is "Desired family size and improved health sustainably achieved." In order to achieve this objective, four intermediate results (IRs) have been developed integrating activities for family planning (FP), maternal and child health (MCH), HIV/AIDS and tuberculosis (TB), namely:

IR1- Local Government Unit (LGU) provision and management of FP/MCH/TB/HIV-AIDS services strengthened;

IR2- Provision of quality services by private and commercial providers expanded;

IR3- Greater social acceptance of family planning achieved; and

IR4- Policy environment and financing for provision of services improved.

B. IR1-related Projects

IR1 contributes to the achievement of the Mission SO3 by improving key management systems to sustain service delivery; improving LGU financing for key health programs; improving performance among service and increasing advocacy for the financing and delivery of health services at the local level. Achieving IR1 will lead to LGU capacity building and ownership for long-term sustainability.

LEAD (Local Enhancement and Development) for Health Project

In October 2003, USAID awarded a three-year contract to the Management Sciences for Health (MSH) to implement the Local Enhancement and Development (LEAD) for Health Project. The LEAD for Health Project is USAID's biggest activity to achieve IR1 and SO3. The LEAD for Health project aims to increase contraceptive prevalence and TB treatment success rates, maintain the low HIV seroprevalence rate and sustain the high rate of vitamin A supplementation by strengthening governance and service delivery capacities of 530 LGUs so that they can sustain the provision of quality FP, TB-DOTS, HIV/AIDS and MCH services.

The major objectives of the AIDS strategy under the LEAD are to avoid any increase in HIV infections, as has already occurred in several countries in the region; prevent infections among the most at-risk groups; and to integrate sustainable HIV/AIDS interventions into LGU and nongovernmental organization (NGO) programs. The principal interventions are (1) strengthening HIV/AIDS surveillance systems; (2) developing plans for sustaining national and local government support; (3) strengthening NGOs to identify and educate the most at-risk groups; and (4) creating a positive policy environment to remove obstacles to implementation and continuation.

HIV Surveillance

The Philippine Department of Health (DOH) established the Passive Surveillance System or the AIDS Registry at the DOH- National Epidemiology Center (NEC) in 1987. The AIDS Registry is providing information on HIV positive cases obtained from various testing centers including hospitals, clinics, laboratories and blood banks. An Active Surveillance System was established in the DOH through the USAID-funded AIDS Surveillance and Education Project (ASEP 1993-2003). The HIV Serologic Surveillance (HSS) was established in 1993 with a complementary behavioral surveillance (BSS) component beginning in 1997. Both systems served as early warning tools to detect increases in HIV seroprevalence rates and to track the behaviors of high-risk groups that predispose them to acquiring and transmitting HIV infection.

It is worth noting that the Philippines was one of the first countries to initiate a comprehensive surveillance system that included HIV serologic surveillance (HSS) and systematic surveillance of risk behaviors. At the time the system was designed in 1993, comparatively little was known about the dynamics of HIV epidemics in Asia, and virtually nothing was known about behavioral surveillance systems (the only previous experience coming from Thailand). Since that time, we have learned a great deal. Previous reviews of the Philippine surveillance system have tried, in their recommendations, to incorporate some of these lessons. However the changes have been piecemeal, often providing "stop-gap" solutions for more fundamental problems. The establishment of the surveillance system in the Philippines after a long period of donor support provides the opportunity to revisit some of the basic issues in surveillance, in the light of nearly a decade of experience both in the Philippines and elsewhere.

A rapid assessment of the existing surveillance systems in HIV/AIDS and sexually transmitted infections (STI) conducted by FHI (Pisani, 2004) revealed that there are essential features that have to be modified in the existing surveillance system in order to get a more accurate picture of HIV infection in the country. There is a need to address specific structural, technical and operational issues to ensure timely, relevant and accurate information regarding HIV/AIDS transmission and infection.

II. OBJECTIVES OF THE ASSIGNMENT

In collaboration with MSH, FHI, DOH and selected LGUs, the team is to assist the Government of the Philippines (GRP) and USAID/Philippines in strengthening the HSS system. The team is to assess the current design of the national HIV Sentinel Surveillance System as a whole, and to recommend changes, as appropriate, to the national guidelines and protocols for HIV surveillance.

III. DELIVERABLES

- **Team Planning Meeting:** Upon arrival in the Philippines, the assessment team will meet to discuss and agree to tasks to be accomplished by each team member.
- **Draft Assessment Report:** The Team Leader shall submit a draft Assessment Report (not to exceed 50 pages) to OPHN/USAID due between November 2, 2004 and November 3, 2004.
- **Briefing:** Team members are required to brief USAID, DOH and other key personnel of findings and recommendations to obtain feedback for incorporation into the Final Assessment/Design Report.
- **Revised Assessment Report:** The revised report will be submitted to the OPHN Chief by November 5, 2004 (prior to departure of the Team Leader).
- **Synergy Trip Report:** Each team member, including the team leader will submit a trip report by November 12, 2004

IV. METHODOLOGY

The expected outcome will be a report on the assessment of current HIV surveillance systems (HSS, BSS, AIDS Registry) with recommendations for revising the HSS/BSS design and methodology and strengthening the organizational plan to implement HIV surveillance.

A team of one international consultant and two local experts will address the following HIV/surveillance aspects:

1. Choice of surveillance population
2. Inclusion and exclusion criteria
3. Mapping and sampling methodologies
4. Sample size and lot quality assurance methods
5. Protocols for anonymity and confidentiality
6. Organization/sustainability of national and LGU-level HIV surveillance efforts

The team must interview key staff from the PNAC, DOH (including NEC, RITM, SACCLE, etc.), selected LGUs, USAID cooperating agencies including MSH, FHI/Impact-Philippines, international donors including WHO, UNAIDS, and other stakeholders as appropriate. The team will also visit selected LGU sentinel surveillance sites.

The international consultant will serve as the Team Leader. In this role, s/he will be responsible for the overall organization of the work and shall serve as the primary contact with USAID/Philippines OPHN.

The assessment /design work will be conducted over a period of four weeks beginning on/about October 11, 2004 to November 6, 2004. The members are authorized to work a six-day workweek.

Proposed approach: At the beginning of the work period, the team members shall hold a one-day Team Planning Meeting for “team building,” interviewing USAID officials and studying the basic reference documents. During this meeting, the team must reach common agreement on specific tasks to be completed and subsequently assign responsibilities to individual team members for each component of the SOW and determine how best to proceed. The remaining time in country will be spent carrying out the assessment activities and preparing a consolidated report providing the team’s findings and recommendations.

After completion of a draft report, the team shall brief USAID, DOH and other key entities. Presentation of draft findings/design/recommendations will lead to finalization of the report. The final report will be submitted to the OPHN Chief on November 5, 2004 prior to the departure of the Team Leader. The assessment, design, writing of the report and debriefings are outlined in the tentative schedule below:

Tentative Schedule:

October 10-11	Arrival /Team building
October 12	Meeting with USAID, Review background documents
October 13	Meeting with MSH, FHI
October 14-15	Meeting with DOH officials
October 18-30	Field works/AIDS Consultative meeting
November 2-3	Debriefings/Presentation/submission Draft Assessment Report
November 5	Submission of Final Draft Assessment Report
November 6	Depart Manila

V. REFERENCE MATERIALS

The team should analyze and review the following key documents:

- 1) USAID Results Framework
- 2) USAID HIV/AIDS Strategy
- 3) ASEP Project Final Evaluation Report

- 4) LEAD Project HIV/AIDS Strategy
- 5) IMPACT/Philippines-FHI workplan
- 6) AIDS Registry reports
- 7) PNAC documents
- 8) DOH organizational plan for HSS/BSS, and other documents as appropriate.

USAID/Philippines will provide to The Synergy Project as many of the background documents in electronic form as possible. Synergy will ensure they are distributed to the assessment team. For those documents that are available in hard copy only, USAID/Philippines will ensure they are available to the team upon arrival in country.

VI. TEAM COMPOSITION AND DESIRED QUALIFICATIONS

The assessment team will consist of three technical experts:

- One International Consultant – Team Leader
Surveillance analyst/epidemiologist/HSS/BSS design expert -surveillance/epidemiologist with experience in designing HIV surveillance systems in Asia or in low prevalence countries.
- Two local Experts –
Organizational/policy experts - knowledge of DOH and LGU health systems in the Philippines, and HIV/AIDS experience highly desirable

VII. REPORTING REQUIREMENTS

The Assessment Report must adequately address all areas contained in the Statement of Work (Section V). It should include:

1. Cover Page
2. Executive Summary stating the findings, conclusions, and recommendations.
3. Table of Contents
4. Body of the Report (which should include a brief description of the HSS/BSS, the environment in which the HSS operates, a statement of the methodology used, major findings, conclusions and recommendations for revising the HSS/BSS design and methodology and strengthening the organizational plan to implement HIV surveillance
5. Annexes

The entire report (exclusive of annexes) should not exceed 50 pages. Annexes to be attached to the final assessment report include:

- a). The statement of work;

- b). A list of persons consulted;
- c). Supplemental background materials useful for a fuller understanding of the report;
- d). An annotated bibliography of significant research reports/studies consulted.

VIII. RELATIONSHIPS AND RESPONSIBILITIES

USAID/Philippines:

The assessment team shall work under the overall guidance of the OPHN/USAID Chief or his/her designee and in close collaboration with the DOH, selected LGUs, MSH, FHI, and other appropriate partners.

The Synergy Project:

Synergy will provide the consultants to USAID/Philippines. A technical backstop staff person will provide technical guidance to the assessment team, as needed, and review the HIV sentinel surveillance report. A senior technical specialist will review the final report and editing services will be provided prior to submission to USAID/Philippines. A program manager will manage and support this activity throughout the assignment period; a program associate will provide logistical support.

Team Leader: The Team Leader will be responsible for the overall organization of the work; conducting U.S. and in-country briefings, and facilitating productive working relationships among the team members. The Team Leader will consult with the client, USAID/Philippines, throughout the assignment to ensure progress is sound and the key items from the scope of work are being addressed. The Team Leader will facilitate the preparation of the Assessment Report among all the team members; ensure that the draft and final products are prepared in accordance with the scope of work and that the required revisions for the final report are incorporated. Should changes to the scope of work be necessary, the Team Leader has authority to negotiate such changes with the client and shall officially inform The Synergy Project, in writing, of such changes. The Team Leader will manage local expenditures and submit a Trip Report to The Synergy Project.

Team members: The local Experts will work under the direction of the Team Leader. All team members will:

- participate in the team planning meeting
- participate in any briefings requested by the Team Leader
- foster productive working relationships
- facilitate the preparation of all deliverables
- maintain records and notes of all interviews and meetings
- submit Trip Reports to The Synergy Project

IX. LOGISTICS

The Synergy Project is responsible for arranging travel for the international consultant to and from the consultant's place of residence, obtaining clearances, providing communications and other support associated with the activity; and delivering a polished final product (50 print copies, 10 electronic CD-Rom) to the Mission at the end of the assignment.

USAID/Philippines shall assist in arranging meeting schedules and providing The Synergy Project with electronic copies of the reference materials where available.

X. PERIOD OF PERFORMANCE

The period of performance for fieldwork for this activity will be from September 27, 2004 to October 22, 2004. The assessment team is approved for a six-day work week while in the Philippines. A complete (tentative) schedule of activities follows:

Assessment Team Field Activities	Team Leader LOE	Local Experts LOE * 2	Deadline	Venue
Preparation Time	3 days	6 days	October 9	
Travel to/from Philippines	2 days	2 days	October 10	
Team Planning Meeting	1 day	2 days	October 11	
Meeting with USAID, Review background documents	1 day	2 days	October 12	USAID/OPHN
Meeting with MSH, Visit Pasay City	1 day	2 days	October 13	MSH
Meetings with DOH Officials (OSec, PNAC, AIDS Unit, Bureau of International Health Cooperation, CDC/IDO, NEC, SACCLE, RITM, BHF, Blood Program), Global fund (TDF, PNGOC)	2days	4 days	October 14-15	DOH, MMC
Team discussion/report writing	1 days	2 days	October 16	
Leave for Cebu City	1 day	2 days	October 18	Marriott Hotel
Cebu (participate in HIV surveillance workshop); meeting with FHI	1 day	2 days	October 19	
Cebu			October 20	

Leave for Davao City (Dr. Carcamo, Dr. Saniel). Leave for General Santos City (Dr. Fernandez)	1 day	2 days	October 21	Marco Polo Hotel
Davao-General Santos/Return Manila	1 day	2 days	October 22	
Team discussion/report writing	1 day	2 days	October 23	
Travel to Angeles City	1 day	2 days	October 25	Holiday Inn Clark
Angeles City/Return to Manila	1 day	2 days	October 26	
Meeting with PNRC, DOLE, Overseas Workers Welfare Administration	1 day	2 days	October 27	
Meeting with UNAIDS, UNICEF, UNDP WHO	1 day	2 days	October 28	
Team Writing	2 day	4days	October 29-30	
Debriefing with USAID /Presentation/submission of Draft Assessment/Recommendations for the Report	1 day	2 days	November 2	
Debriefing at DOH	1 day	2 days	November 3	DOH
Writing	1 day	2 days	November 4	
Submission of Final Draft Assessment/Design Report to the Mission and Synergy	1 day	2 days	November 5	OPHN
Assessment Team departs Manila	1 day	2 days	November 6	

Post-Fieldwork Activities	LOE	Deadline	
Both Mission and Synergy review Final Draft Assessment/Design Report and sends comments directly to Team Leader	4 days	November 12	
Team Leader revises report and submits to the Mission and Synergy	3 days	November 18	

Mission reviews report and returns it to Synergy with clearance or additional comments	4 days	November 23	
Upon clearance from the Mission, Synergy prepares polished Final Report and delivers to Mission (50 print copies, 10 electronic CD-Rom)	14 days	December 10	

ANNEX B. PERSONS CONTACTED/INTERVIEWED

MANILA

United States Agency for International Development (USAID)

Michael Yates, Mission Director

Aye Aye Thwin, Deputy Chief, Office of Population, Health and Nutrition

Corazon Manaloto, Development Assistant Specialist

Maria Paz de Sagun, Project Management Specialist

Nilda Perez, Project Management Specialist

Ephraim Despabiladeras, Project Management Specialist

Charito Redoblado, Project Management Specialist

Catherine Fischer, Senior Technical Advisor

John Wesley Dulawan, Project Development Specialists

Carina San Felix, Development Specialist

Management Sciences for Health (MSH)/Local Enhancement and Development for Health (LEAD) Project

Debra Maria Catulong, HIV/AIDS Specialist

Easter Isberto, Consultant

Eric Tayag, Consultant

Department of Health (DOH)

Remedios Paulino, Director, Bureau of International Health Service

Dyezebel Dado, Bureau of International Health Service

Florante Trinidad, Bureau of International Health Service

Criselda Abesamis, Director, National Blood Screening Program

Myrna Rey, National Center for Health Facility Development

Florinda Junillo, National Center for Health Facility Development

Marlow Niñal, Officer-in-Charge, National Epidemiology Center (NEC)

Aura Corpuz, NEC

Emma Arquitola, NEC

Allan Ignacio, NEC

Beauty Palongpalong, Chief, Quality Assurance & Monitoring Division

Mario Baquilod, National Center for Disease Prevention and Control

Ernesto Villalon, National AIDS/STI Prevention and Control Program Coordinator

Dorothy Agdamag, STD/AIDS Central Cooperative Laboratory

Hazel Galang, Medical Technologist, Research Institute for Tropical Medicine

Roderick Poblete, Philippine National AIDS Council

Family Health International (FHI)

Loreto Roquero, Jr., Country Director

Ricardo Mateo, Jr., Senior Technical Officer

Elizabeth Pisani, Senior Technical Officer-Surveillance, Asia Regional Office

World Health Organization (WHO)

Jean-Marc Olivé, Country Representative

Nerizza Dominguez, Programme Officer

United Nations Population Fund (UNFPA)

Zahidul Huque, Country Representative

Auralyn Anorico, Program Officer for Adolescent Reproductive Health and Gender

United Nations Children's Fund (UNICEF)

Dale Rutstein, Communication Officer

Leopoldo Moselina, Child Protection Officer

Ema Naito, Assistant Programme Officer, HIV

Renato Linsangan, HIV Consultant

Joint United Nations Programme on AIDS (UNAIDS)

Ma. Elena Borromeo, Country Coordinator

Philippine Overseas Employment Administration

Nini Lanto, Director, Employment Branch

Hermogenes Mateo, Director, Welfare Branch

Laura Timonera, Chief, Manpower Development Division

Overseas Workers Welfare Administration

Rustico Dela Fuente, Director, Policy and Programs Development Office

Ma. Elvira Ador, Chief, Planning and Program Division

Rey Tayag, Planning and Program Division

Philippine NGO Council (PCNC)

Ruthie Libatique, Program Manager on HIV

QUEZON CITY

Maria Paz Ugalde, City Health Officer

Rosalina Addun, Project Manager, Kabalikat ng Pamilyang Pilipino, Inc.

Quezon City HIV Surveillance Team

Yolanda Condenuuevo, Medical Officer IV

Zayda Sayson, Public Health Nurse II

Luna Montojo, Medical Technologist II

Rosario Samson, Medical Technologist II

Irene Grafil, Medical Officer IV

Nancy Pareja, Medical Officer IV

Antonieta Inumerable, Assistant City Health Officer II

Laura Macalalad, Public Health Nurse II

Irma Pagulayan, Public Health Nurse II

Ma. Cyrell Arevalo, Medical Technologist

CEBU CITY

HIV Surveillance Team Leaders of Sentinel Sites

Joselito Retuya, Social Hygiene Clinic Physician, Cagayan de Oro

Teresita Esguerra, Social Hygiene Physician, Angeles City

Rosita Cueto, Medical Officer IV, Davao City

Julio Alejandro Vitug, Surveillance Nurse, Pasay City

Irene Grafil, Surveillance Officer, Quezon City

Kibtiya Uddin, Social Hygiene Physician, Zamboanga City

Carol Lourdes Carabaña, Assistant City Health Officer, Zamboanga City

Ma. Odeta Villaruel, Social Hygiene Clinic Physician, Iloilo City

Ilya Tac-an, Social Hygiene Clinic Physician, Cebu City

Celia Flor Brillantes, Social Hygiene Clinic Physician, Baguio City

Mely Lastimoso, Social Hygiene Physician, General Santos City

Cebu City AIDS Council

Ilya Tac-an, City Health Department

Leonora Calzada, Social Health Educator

Delia Kiamco, Department of Education

Ronald Filoteo, Sanguniang Panlungsod

Nida Sistona, Department of Social Services and Development

Remberto Generalao, Bidlisiw Foundation Incorporated

Cebu City HIV Surveillance Team

Ilya Tac-an, Team Leader

Carmelita Perales, Nursing Attendant

Daylinda Tomines, Sanitary Inspector III

Lilia Aquino, Nursing Attendant

Liliosa Batiancila, Nursing Attendance

Marissa Gomez, Public Health Midwife

May Mercado, Public Health Midwife I

Ervyl Aballe, Public Health Nurse I
Chona Loma, Medical Officer IV
Consuelo Malaga, Vicente Sotto MMC, HACT

Peer Educators of Injecting Drug Users

“Ligaya,” Senior Peer Educator
2 Junior Peer Educators

DAVAO CITY

John Roxas, Executive Director
Rogelio Peñera, RESU Health, Center for Health Development XI
Josephine Villafuerte, City Health Officer
Renee Faldas, Medical Specialist VI, STD/AIDS Coordinator
Camilo Naraval, Jr., Health Management and Research Group Foundation
April Rivera, President, Davao Entertainment Industry Association–Toril Chapter
“Alex,” Vice President, Davao Entertainment Industry Association–Toril Chapter
“Dakdak,” Pimp of Freelance Sex Workers
“Gigi,” Freelance Sex Worker
“Sheila,” Freelance Sex Worker

Davao City HIV Surveillance Team

Joy L. Nio, Medical Technologist
Ma. Theresa Bien, Medical Technologist
Ernesto Vaylon, Medical Technologist
Ma. Teresa Mataganas, Medical Technologist
Ma. Angelina Sagpang, Public Health Nurse II
Violeta Nano, Medical Technologist
Evangeline Dayrit, Nurse
Vivian Oleda, Nurse

Peter-Paul Medical Clinic, Inc.

Artemio Victor Sanchez III, Director for Finance & Operations

Zongerraine Bioco, Medical Technologist

Angelene Balayon, Medical Technologist

Davao Medical School

Vicky Lupasi, Coordinator, Behavioral Sentinel Surveillance

GENERAL SANTOS CITY

Lalaine Calonso, Medical Health Officer V

Trinidad Sanchez, Public Health Nurse III

Danilo Canewein, Sanitary Inspector IV

Asuncion Rodriguez, Hospital Pharmacist

Evelyn Genite, Midwife, Social Hygiene Clinic

Nemesia Eleazar, Medical Technologist, Social Hygiene Clinic

Amelia Elioreg, Medical Technologist II

Josephine Fuentebella, Medical Technologist (Designate)

Wilfred Bidad, Social, Health and Environment Development Inc.

ANGELES CITY**Angeles City AIDS Council**

Teresita Esguerra, Social Hygiene Physician, Angeles City

Joven Esguerra, City Health Officer, Angeles City

Susie Lopez, Program Coordinator, AIDS Council

Lucila Paran, President, League of Angeles City Entertainers and Managers

Heri Cangas, Consultant, League of Angeles City Entertainers and Managers

Heide Patio, City Social Welfare and Development Officer

Femia Baldeo, Program Officer, Pearl S. Buck Foundation

Ruben Maniago, City Councilor

Edna Flores, Project Manager, Pearl S. Buck Foundation

Aida Lapira, Private Physician

Flora Cortado, Coordinator, League of Angeles City Entertainers and Managers

Angeles City HIV Surveillance Team

Anita Delfin, Nurse

Rachelle Magalong, Medical Technologist

Percy Mercado, Medical Technologist

Susie Virginia Lopez, Program Coordinator

Winnie Suller, Nurse

Lyn Velasco, Nurse

Evangeline Cortez, Medical Technologist

Cennin Paras, Clerk

BAGUIO CITY

Baguio City HIV Surveillance Team

Celia Flor Brillantes, Medical Officer, Social Hygiene Clinic

Florecita Herrera, Public Health Nurse, Dispensary

Marivic Avenido, Medical Officer

Rebecca Guanza, Public Health Nurse

Brenda Valdez, Public Health Nurse

Diego Ofiaza, Medical Technologist

Amulfo Buccat, Sanitation Inspector

Zoraida Clavio, Medical Officer

Charito Bueno, Sanitation Inspector

Nick Guanzon, Sanitation Inspector

Gerbacio Bernal, Jr., Medical Technologist

Men Having Sex with Men

8 anonymous MSM

ANNEX C. SAMPLE SIZE PROPOSED AT OCTOBER 2004 MEETING IN CEBU CITY

At-risk population	HIV Behavioral Surveillance Survey	HIV Sentinel Surveillance
Female sex workers	200* 450**	200* 450**
Men having sex with men	300	200
Injecting drug users	200	200
High risk men	400	200

* For SHCs.

** For three sites that will offer SHCs (200 women) and community serology (250 women).

Source: Modified from the Documentation Report of the Validation Workshop for the Revised HBS, 19–20 October 2004 in Cebu City, Philippines.

ANNEX D. QUESTIONNAIRE GIVEN TO SITE TEAM LEADERS

The Synergy Project Surveillance Questionnaire

Dear Fellow Surveillance Worker:

We wish to avail you of this very rare opportunity in which all sites are represented to ask you all a few questions on both HSS and BSS. Please do us the honor of giving us your valued responses. We greatly appreciated your selfless cooperation.

The Synergy Project Team:

César Cárcamo Ofelia Saníel Tom Fernandez

Surveillance Site _____

1. Have you missed conducting a surveillance round?

_____ no

_____ yes _____ HSS When? _____

_____ BSS When? _____

Why?

2. What was the most important criterion considered in assigning a subject to each of the following categories?

- a. Registered Female Sex Worker
- b. Freelance Female Sex Worker
- c. Men Who Have Sex With Men (MSM)

3. What were the most common recruiting sites for the subjects under the following categories?

- a. Registered Female Sex Worker
- b. Freelance Female Sex Worker
- c. Men Who Have Sex With Men
- d. Injecting Drug User

Where were they easiest to find?

- a. Registered Female Sex Worker
- b. Freelance Female Sex Worker
- c. Men Who Have Sex With Men
- d. Injecting Drug User

4. In your estimate, what was the refusal rate for HSS and BSS?

- | | |
|---------------------------------|-----|
| a. Registered Female Sex Worker | HSS |
| | BSS |
| b. Freelance Female Sex Worker | HSS |
| | BSS |
| c. Men Who Have Sex With Men | HSS |
| | BSS |
| d. Injecting Drug User | HSS |
| | BSS |

5. What were the most common reasons given for the refusals?

a. Registered Female Sex Worker

HSS

BSS

b. Freelance Female Sex Worker

HSS

BSS

c. Men Who Have Sex With Men

HSS

BSS

d. Injecting Drug User

HSS

BSS

6. What Quality Control measures were done during each round? In between rounds?
7. How soon after the required samples were sent to SACCL did you receive the results?
8. What proportion of subjects came back for the results of their tests?
 - a. Registered Female Sex Worker
 - b. Freelance Female Sex Worker
 - c. Men Who Have Sex With Men
 - d. Injecting Drug User
9. What proportion of subjects who tested positive on screening came back for their results?
 - a. Registered Female Sex Worker
 - b. Freelance Female Sex Worker
 - c. Men Who Have Sex With Men
 - d. Injecting Drug User
10. Have you identified any new high-risk groups in your area? What are these?
11. For which categories of subjects did you use peers for recruitment?
12. What forms of support were you able to obtain from your LGU?
13. If your site has a Local AIDS Council, what was its role in surveillance?

ANNEX E. REFERENCES

Department of Health (DOH)/Philippines, USAID, and WHO. 2003a. "Setting up an HIV surveillance system." *Manual of Procedures*. CD-ROM. Manila: DOH/USAID/WHO.

———. 2003b. "HIV behavioral surveillance." *Manual of Procedures*. CD-ROM. Manila: DOH/USAID/WHO.

Mateo R, Agdamag, O. Sanieel, M. Roces, N. Palaypayon, M. Lim-Quizon. 2003 "HIV serologic surveillance." *Manual of Procedures*. CD-ROM. Manila: DOH/USAID/WHO.

Monzon O.T., F.J. Paladin, E. Dimaandal, A.M. Balis, C. Samson, S. Mitchell. "Relevance of antibody content and test format in HIV testing of pooled sera." *AIDS* 6 (Jan. 1992): 43–8. [This article provides the basis for the current procedures for HIV screening. The study found similar performance of the particle agglutination test when compared with two ELISA tests and that the performance of PA does not decline when pools of size 5 to size 20 were used.]

UNAIDS/WHO Working Group on Global HIV/AIDS/STI Surveillance. 2001. "Guidelines for using HIV testing technologies in surveillance." Geneva: WHO/CDS/CSR/EDC/2001.16. [Review of considerations for selection of diagnostic test for HIV and for evaluation of its performance]

WHO/UNAIDS. 1999. "Operational characteristics of commercially available assays to determine antibodies to HIV-1 and/or HIV-2 in human sera." Report 11. Geneva: WHO/UNAIDS. [This document includes tables describing the performance of several diagnostic tests for HIV, including ELISA tests and rapid tests; good complement for reference UNAIDS/WHO Working Group on Global HIV/AIDS/STI Surveillance. 2001.]